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EXAMINER

HUANG, WEN WU

ART UNIT	PAPER NUMBER
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2618

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/594,754	Applicant(s) INABA ET AL.	
	Examiner WEN W. HUANG	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13, 14 and 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13, 14 and 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 13, 14 and 16-32 are pending.

Claims 1-12 and 15 are canceled.

Claim Objections

Claims 25-28 are objected to because of the following informalities:

Claims 25-28 are identical to claims 17-20. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 13, 14, 16, 17, 21, 25 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Juzswik (US. 6,801,134 B1).

Regarding **claim 13**, Juzswik teaches an on-vehicle radio device (see Juzswik, fig. 8, col. 12, lines 58-65) that acquires identification information for unlocking a lock device of a vehicle (see Juzswik, fig. 8, door lock control 84) from a portable radio device having said identification information recorded therein by radio

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communication with said portable radio device (see Juzswik, fig. 8, portable unit 434, memory 460), comprising:

human detection means of detecting a person (see Juzswik, fig. 8, handle sensor 38, col. 5, lines 40-45);

variable frequency signal generating means (see Juzswik, fig. 8, LF transmit circuitry 470) of generating a variable frequency request signal (see Juzswik, col. 12, lines 35-45; adjustable frequency of LF interrogation signal) for said radio communication requesting transmission of a signal including said identification information (see Juzswik, fig. 4, 144 and 146; col. 5, lines 3-8);

band changing means of changing the frequency band of the request signal generated by said variable frequency signal generating means (see Juzswik, fig. 8, controller 466, col. 13, lines 41-45) in a case in which an on-vehicle radio device has not yet acquired the identification information recorded in the portable radio device (see Juzswik, fig. 8, interrogating signal 428; col. 60-67) when the person carrying the portable radio device having the identification information recorded therein is detected by the human detection means (see Juzswik, fig. 8, handle sensor 38, col. 5, lines 40-45, after interrogation sequence initiated`);

radio transmitting means of transmitting the signal generated by said variable frequency signal generating means to the outer space (see Juzswik, fig. 8, LF antenna 474); and

transmission characteristics changing means (see Juzswik, fig. 8, LF transmit circuitry 470, frequency control 468) of changing the transmission characteristics of said

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radio transmitting means to transmission characteristics adapted to the frequency band of the signal generated by said variable frequency signal generating means changed by said band changing means (see Juzswik, fig. 8, interrogation signals 428 and 428'; col. 14, lines 1-5).

Regarding **claim 17**, Juzswik teaches the on-vehicle radio device according to claim 13, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device (see Juzswik, fig. 8, RF 430) is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device (see Juzswik, fig. 8, RF 430 is at higher frequency and LF (low frequency) 428 and 428').

Regarding **claim 25**, the dependent claim is interpreted and rejected for the same reason as set forth above in claim 17.

Regarding **claim 14**, Juzswik teaches an on-vehicle radio device (see Juzswik, fig. 8, col. 12, lines 58-65; LF frequency selection in the same manner as in RF frequency selection, col. 12, lines 60-63) that acquires identification information for unlocking a lock device of a vehicle (see Juzswik, fig. 8, door lock control 84) from a portable radio device having said identification information recorded therein by radio communication with said portable radio device (see Juzswik, fig. 8, portable unit 434, memory 460), comprising:

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radio wave measuring means of measuring radio wave intensity in the outer space of said on-vehicle radio device for each of predetermined frequency bands (see Juzswik, fig. 2, noise monitor 94, col. 8, lines 4-10);

variable frequency signal generating means (see Juzswik, fig. 8, LF transmit circuitry 470) of generating a variable frequency request signal (see Juzswik, col. 12, lines 35-45; adjustable frequency of LF interrogation signal) for said radio communication requesting transmission of a signal including said identification information (see Juzswik, fig. 4, 144 and 146; col. 5, lines 3-8);

band changing means of changing the frequency band of the request signal generated by said variable frequency signal generating means (see Juzswik, fig. 8, controller 466, col. 13, lines 41-45) to a frequency band in which the radio wave intensity in the outer space of the on-vehicle radio device (see Juzswik, fig. 3, noise level 110) is lowest from amongst the predetermined frequency bands (see Juzswik, fig. 3, all possible frequencies tested 118 and select best frequency 122; col. 9, lines 59-63).

Regarding **claim 16**, Juzswik teaches the on-vehicle radio device according to claim 14, wherein said radio measuring means measures radio wave intensity when said on-vehicle radio device is in a transmission wait state (see Juzswik, fig. 3, monitoring frequencies 108 in a LF signal transmission 114 wait state).

Regarding **claim 21**, Juzswik teaches the on-vehicle radio device according to claim 14, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device (see Juzswik, fig. 8, RF 430) is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device (see Juzswik, fig. 8, RF 430 is at higher frequency and LF (low frequency) 428 and 428').

Regarding **claim 29**, the dependent claim is interpreted and rejected for the same reason as set forth above in claim 21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-20, 22-24, 26-28 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juzswik as applied to claims 13 and 14 above, and further in view of Grandfield et al. (US. 4,791,377; hereinafter "Grandfield").

Regarding **claim 18**, Juzswik teaches the on-vehicle radio device according to claim 13, wherein said variable frequency signal generating means generates the signal

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to be transmitted to said portable radio device (see Juzswik, col. 12, lines 35-45; adjustable frequency of LF interrogation signal; fig. 4, 144 and 146; col. 5, lines 3-8).

Juzswik is silent to teaching that wherein said variable frequency signal generating means generates the signal based on discrete variable values of a sine function stored in a table. However, the claimed limitation is well known in the art as evidenced by Grandfield.

In the related art, Grandfield teaches a variable frequency signal generating means (see Grandfield, fig. 2, numerical controlled oscillator 21) generates the signal based on discrete variable values of a sine function stored in a table (see Grandfield, col. 3, lines 60-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Juzswik with the teaching of Grandfield in order to allow fast frequency selection (see Grandfield, col. 1, lines 25-28).

Regarding **claim 19**, Juzswik teaches the on-vehicle radio device according to claim 13, wherein said variable frequency signal generating means modulates a predetermined code with the carrier wave (see Juzswik, col. 6, lines 24-33), thereby generating the signal to be transmitted to said portable radio device (see Juzswik, fig. 8, LF transmit circuitry 470 and frequency control 468).

Juzswik is silent to teaching that wherein said variable frequency signal generating means generates a carrier wave based on discrete variable values of a sine

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function stored in a table. However, the claimed limitation is well known in the art as evidenced by Grandfield.

In the related art, Grandfield teaches a variable frequency signal generating means (see Grandfield, fig. 2, numerical controlled oscillator 21) generates a carrier wave based on discrete variable values of a sine function stored in a table (see Grandfield, col. 3, lines 60-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Juzswik with the teaching of Grandfield in order to allow fast frequency selection (see Grandfield, col. 1, lines 25-28).

Regarding **claim 20**, Juzswik teaches the on-vehicle radio device according to claim 13.

Juzswik is silent to teaching that wherein said band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device based on a predetermined coefficient and changes said coefficient in accordance with the changed frequency band of the signal generated by said variable frequency signal generating means. However, the claimed limitation is well known in the art as evidenced by Grandfield.

In the related art, Grandfield teaches a band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device (see Grandfield, fig. 3, variable band pass filter 37) based on a predetermined coefficient and changes said coefficient in accordance with the changed

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frequency band of the signal generated by said variable frequency signal generating means (see Grandfield, col. 4, lines 38-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Juzswik with the teaching of Grandfield in order to allow fast frequency selection (see Grandfield, col. 1, lines 25-28).

Regarding **claims 26-28**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 18-20, respectively.

Regarding **claims 22-24**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 18-20, respectively.

Regarding **claims 30-32**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 18-20, respectively.

Response to Arguments

Applicant's arguments with respect to claims 13 and 14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Simon et al. (US. 6,570,486 B1) teach a passive remote keyless entry system sending interrogation signal on all frequencies.

Mitchell (US. Pub No. 2004/0174246 A1) teaches a passive remote keyless entry system sending interrogation signal on all frequencies.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEN W. HUANG whose telephone number is (571)272-7852. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W. W. H./
Examiner, Art Unit 2618

/Matthew D. Anderson/
Supervisory Patent Examiner, Art Unit 2618